

WHAT IS CLAIMED IS:

1. A multilayered torsional hinged resonant pivoting device comprising:

J.P.
5/05
a hinge layer defining a support structure and an attaching member, said support structure for pivotally supporting said ~~mirror~~ attaching member along a first axis of rotation by a pair of torsional hinges, said attaching member having a front side and a back side, and said attaching member defining spines extending in opposite directions and away from said first axis;

a front layer having a front portion, a back portion and a selected thickness, said back portion of said front layer mounted to said front side of said attaching member and said front layer having a known mass moment about said first axis; and

a back layer mounted on said back side of said attaching member and having a mass moment substantially equal to and opposite said known mass moment of said front layer, such that the center of mass of the combined front and back layers is substantially coplanar with the first axis of rotation and the moment of inertia of said multilayered torsional hinged device is substantially centered on said first axis of rotation.

2. The multilayered device of claim 1 wherein said front portion of said front layer has a first size and shape and said back portion of said front layer further defines spines corresponding to said spines defined by said attaching member.

3. The multilayered device of claim 2 wherein said back layer further defines spines corresponding to said spines defined by said attaching member.

4. The multilayered device of claim 1 wherein said back layer further defines spines corresponding to said spines defined by said attaching member.